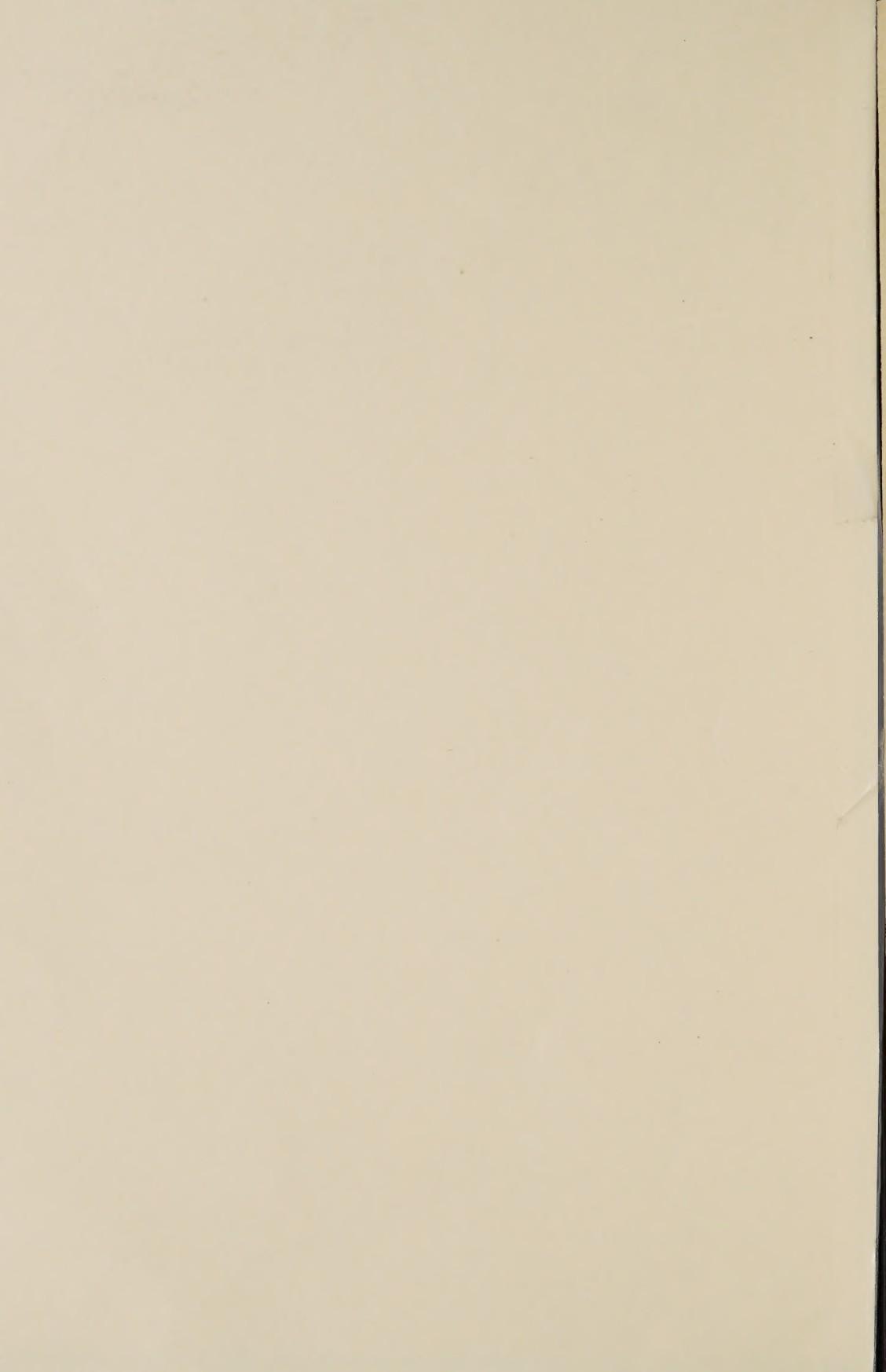


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S. D.—91. [This leaflet is distributed only with the seeds to which it relates.]

## United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

New and Rare Seed Distribution,

WASHINGTON, D. C.

### COWPEAS.

**OBJECT OF THE DISTRIBUTION.**—The distribution of new and rare seeds has for its object the dissemination of new and rare crops, improved strains of staple crops, and high-grade seed of crops new to sections where the data of the department indicate such crops to be of considerable promise. Each package contains a sufficient quantity for a preliminary trial, and where it is at all practicable the recipient is urged to use the seed for the production of stocks for future plantings. It is believed that if this practice is followed consistently it will result in a material improvement in the crops of the country.

Please make a full report on the inclosed blank regarding the results you obtain with the seed.

#### DESCRIPTION.

The cowpea (*Vigna sinensis*) is a strong-growing annual legume, varying in form and habit of growth with the variety, soil, moisture, and cultural conditions. It has long occupied an important place in southern agriculture, being grown extensively for forage and green manure. As a green-manure crop the cowpea not only greatly increases the supply of humus and nitrogen in the soil, but improves the mechanical condition of the soil. The feeding value of cowpea hay has long been recognized, as it has been used for all kinds of stock in the cowpea region. Cowpeas for hay production are very advantageously grown in mixture with sorghums, soy beans, Johnson grass, or Sudan grass. When grown with sorghum or corn in cultivated rows, an excellent ensilage, easily handled, is obtained. As a pasture plant the cowpea is especially valuable, for with the proper selection of varieties it can be grazed from early summer until late fall. The cowpea can be profitably grown in rotation with other crops. In the Southern States the cowpea is quite generally and favorably known as a table pea, being used in the pod, shelled green, and shelled dried.

#### ADAPTAION.

Although the cowpea is especially adapted to southern conditions, the introduction of early varieties has made its cultivation profitable as far north as Connecticut, Ohio, and Iowa. The cowpea will grow on all types of well-drained soil, thriving on poor soils better than any other legume. Sandy and loam soils tend to hasten maturity and are most suitable for seed production, while the heavier soils produce more forage.

### INOCULATION.

Natural inoculation for the cowpea occurs quite generally throughout the cowpea region. However, in isolated sections and in the Western and Northern States, where the crop has not been previously grown, some difficulty, due to lack of inoculation, may be expected. Inoculation may be secured by using a pure culture of the proper bacteria, a limited quantity of which may be obtained from the United States Department of Agriculture free of charge, or by dusting the cowpea seed with soil obtained from an old cowpea field known to have been inoculated, using about a gallon of soil to a bushel of seed.

### CULTURE.

To obtain the best results, the seed bed for cowpeas should receive as thorough preparation as land for corn. Seeding should be done when the soil is warm and not too wet, as the seed will then germinate very readily. As a green-manure crop the cowpea may be sown as late as midsummer. Cowpeas may be sown in rows or broadcasted, depending upon the purpose for which the crop is grown. For the production of seed, planting in rows from 24 to 36 inches apart is the best method, while for forage or soil improvement a broadcasted or drilled crop is preferable. When planted in rows, from 20 to 30 pounds of seed to the acre are required; and if broadcasted or drilled, 60 to 90 pounds to the acre should be used. Thin planting is recommended in regions of light rainfall, and comparatively thick planting where there is ample moisture. The ordinary grain drill (covering the feed cups not in use), the corn planter, or the cotton planter may be used in row plantings. Cultivation should begin as soon as the plants appear above the ground. The crop should receive at least three cultivations.

### HARVESTING.

For hay, cowpeas should be cut at the time the first pods begin to ripen. Where seed is desired, cutting should be delayed until one-half or more of the pods are mature. In harvesting for seed production the mower with a bunching attachment gives excellent results and the self-rake reaper can be used to advantage.

### THRESHING.

Threshing may be done very satisfactorily with the ordinary grain thresher, provided a few adjustments are made. The cylinder should be run at a low and even speed, while the rest of the machine should be run as usual. Suitable screens should be provided and some of the concaves removed. Special pea and bean separators are now on the market and do excellent work. Where the area is small and the peas are picked by hand, a cowpea huller can be used to advantage.

### SEED.

Cowpea seed is subject to attack by the pea weevil and is often considerably damaged in storage by this insect. By treating the

stored peas frequently with carbon disulphid, the weevil can be held in check. Seed properly stored and kept free from weevil attack will retain its ability to germinate for several years.

#### VARIETIES.

Although there are a large number of varieties of cowpeas known, comparatively few are of prime importance. Some of the extensively cultivated varieties are grown under various names in different sections of the country. The varieties of cowpeas are distinguished most readily by the color and size of the seed, though they differ in habit, maturity, disease resistance, etc. The use to be made of the crop should determine to a large extent the variety to be selected. For forage purposes the most desirable varieties are those having a fairly upright habit and large growth, holding their leaves well and producing an abundance of pods. The late vining varieties are rather poor in seed production. For table use, the varieties with white or nearly white seeds are preferred.

Following are brief notes concerning the more important varieties:

*Whippoorwill*.—A good general-purpose variety and the one most commonly grown. It is medium maturing, vigorous, fairly erect, and suitable for grain or hay production, or for both. On soils of medium fertility it produces its best yields of seed, while on richer soils it tends to run to forage. The seed is mottled chocolate on a buff or reddish ground color.

*New Era*.—One of the most erect of the cowpeas, and about two weeks earlier than Whippoorwill. It usually produces a heavier yield of seed than the Whippoorwill, but less vine growth. The seed is small and bluish in color, owing to the many minute specks on a gray ground.

*Groit*.—A variety very similar to and often confused with the New Era. It is a hybrid between the New Era and Whippoorwill. The Groit is superior to both the New Era and Whippoorwill, as it makes a larger growth and fruits more heavily. An important factor is the persisting of the leaves on the Groit when the pods are mature. It is one of the most promising for forage and for seed production. The seed is quite similar to that of the New Era, but has chocolate markings in addition to the blue specks.

*Brabham*.—A hybrid between the Iron and Whippoorwill varieties. It is quite similar in growth to the Whippoorwill but is later, a trifle more viny, and holds its leaves better on ripening. The Brabham is especially adapted to sandy soils, to the semiarid regions, and to sections where wilt and nematodes are prevalent, being highly resistant to both of these troubles. Not only can it be grown to advantage for forage but it gives a good yield of seed. The seed is smaller but of the same markings as the Whippoorwill.

*Iron*.—A medium late-maturing variety, yielding well in both forage and seed. It is highly resistant to wilt and nematodes, and is therefore adapted to the same regions as the Brabham, although it is a valuable variety under nearly all conditions. The buff or clay-colored seed is hard and retains its vitality better than most varieties.

*Early Buff*.—A new variety especially adapted to northern conditions, maturing the first pods in about 65 days. It has an erect, bushy habit, and is very prolific. The Early Buff should prove to

be a most suitable forage and seed variety for the Northern States where two summer months are free from severe frosts.

*Buff Catjang*.—The Catjang cowpea is a species with numerous varieties which have much in common with the ordinary cowpea. This variety has an erect, bushy habit and is very prolific. Experiments throughout the cowpea region show it to be of promise for forage and seed production.

*Victor*.—A cross originated by the United States Department of Agriculture between the Groot and Brabham varieties. It has the tall habit of the Brabham variety and has given better yields of forage and seed than either of the parents. The Victor is valuable for both forage and seed, and it is highly resistant to wilt and nematodes. Seeds small, of the Brabham shape, buff, marbled with brown, and sprinkled with minute blue specks.

#### GROUP NAMES.

Several varietal names, such as Clay, Blackeye, Black, and Red Ripper are best considered group names, as each of these terms may include a number of different varieties or strains. The term Clay is commercially applied to a group of varieties with buff-colored seeds; the medium-late varieties are termed Clay, while the late varieties are known as Unknown or Wonderful. The name Black is generally applied to any black-seeded non-Crowder variety. Black cowpeas belong mainly to two varieties, Early Black or Congo and Black, the Early Black being 10 days later and having larger seeds. The Red Ripper includes most of the cowpeas with maroon kidney-shaped seeds. A large number of varieties of cowpeas with black eyes are known under the name Blackeye, being most commonly used for table purposes.

#### SUGGESTIONS.

A more extensive use of the cowpeas at the present time is no doubt retarded by the high price of seed. Localities adapted to the production of cowpea seed would find it profitable to produce seed on a large scale, availing themselves of all the best machinery for handling the crop. Cowpea seed can be produced most abundantly on sandy or sandy loam soils of moderate fertility.

#### PUBLICATIONS.

Farmers' Bulletin 1148, "Cowpeas: Culture and Varieties;" 1153, "Cowpeas: Utilization," and 1308, "Marketing the Cowpea Seed Crop," giving quite complete information concerning the culture and uses of the cowpea, are available for free distribution on application to the Secretary of Agriculture, Washington, D. C.

NOVEMBER 6, 1923.